ULTRASCAN P1 Functions

The functions you can choose when all the test vehicle details are selected properly are explained in this chapter of the manual. The actual list of available functions may be different according to the vehicle you want to test.

I. Diagnostic Trouble Code----------

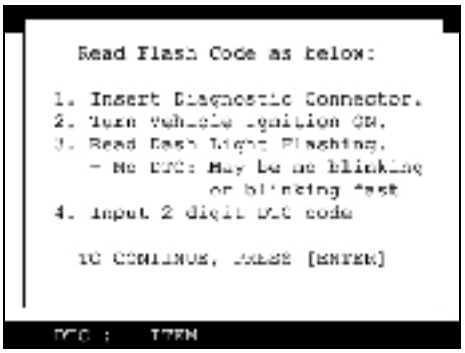
A. DTC Read

1. Pulse signal type

a. Many of old Toyota, Honda, Mazda, Hyundai and Kia cars until early 90's support slow pulse signal output for the DTC reading function.
As shown below, ULTRASCAN P1 shows the pulse signal being received through the DLC adapter in the top and the received DTC numbers.

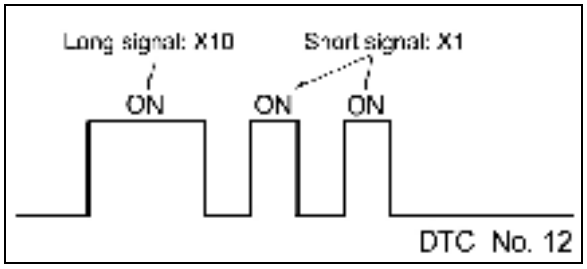
b. Manual input
- Even older cars such as Honda with 2-pin adapter have no signal output terminal for DTC in the DLC adapter. In this case, ULTRASCAN P1 shows the following message as there is no signal

input through the adapter.



- You have to count the MIL flashing on the dashboard and manually input the DTC number to ULTRASCAN P1 to view the details as below:

- Long flash signals count for tens and short signals for ones. Input two digits for tens and ones in sequence using the numeric keypad.
  A flash signal for a code is followed by another if there are multiple trouble codes. Blinking signals for all trouble codes flash in sequence, and repeat after a pause.



c. Others
   - Generally ULTRASCAN P1 reads DTC pulse signal from the diagnostic adapter and shows the DTC number, title and details automatically.

2. Serial Communication type

a. Most of the cars built in 1990's or later support serial communication with a scanner, and the DTC is read by bi-directional communication.
b. ULTRASCAN P1 sends a command to the control module to reply with the DTC numbers stored in memory, and the control module replies thereupon.

B. DTC Erase (Clear fault code)

1. Pulse signal type

a. Pulse signal type does not support bi-directional serial communication, therefore, a scanner is unable to send a command to the control module to erase the DTC information from memory.
These old cars require you to remove battery terminal to clean up diagnostic information from control module memory.

Removing the battery terminal will get rid of all information contained in the car stereo and other electronic devices. And it may not effectively erase the fault codes in some cars. Refer to the original repair manual for further information.
Check if DTC information is properly removed by reading the trouble code again after erasing the code.

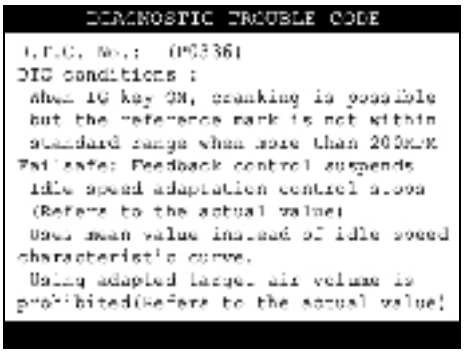
2. Serial communication type

a. ULTRASCAN P1 sends a command to the control module to erase DTC information stored in memory, and the control module replies thereupon.
b. Check if DTC information is properly removed by reading the trouble code again after erasing the code

C. DTC Help tips

a. Help tips are provided when you press the [HELP] key after locating the highlighted bar on one of the detected trouble code(s). This function is available when ULTRASCAN P1 detects one or more trouble code(s)

b. Help tips including trouble code definition, conditions and check points are provided for all Korean cars and Malaysian cars. Wiring diagrams are also provided for Korean cars of 2000 model-year or older.



c. Press the [ESC] key to return to DTC list.

II. Current Data ----------

(= Data Stream, Live Data, Service Data)

A. Pulse Signal Type

a. Data stream is not generally supported for this type of old cars because the speed of pulse signal communication is too slow to read the data stream variables.

b. Some of old Toyota cars using 17-pin rectangular adapter exceptionally support data readings as the system supports relatively high speed pulse signal communication.

B. Serial Communication Type

a. Most of control systems with serial communication support data stream function. Select [Current data] from the menu, then the data readings follow.

b. Some systems like SRS or ABS may be designed not to support data stream intentionally by the car make while the other systems are supported. A scanner is a passive tool that reads information from the control system, and it is unable to actively generate information that the system does not provide.

C. Data Freeze

The [Data Freeze] function places the selected data stream variable on top of the LCD screen so that the user can check and compare desired sensor values continually without having to scroll up and down.

This function is different from 'Freeze Frame Data' function of Generic OBD2.

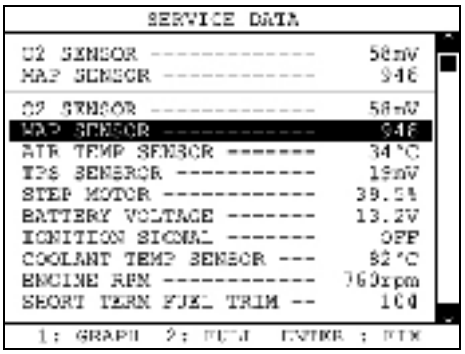
1) Step One

Select a desired sensor using the [◀][▶] and the [▲][▼] keys.

2) Step Two

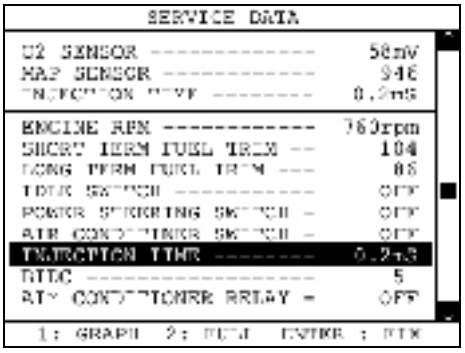
Press the [ENTER] key to freeze the selected sensor.

i.e., when O2 sensor and MAP sensor are selected and frozen, these sensor values will be placed at the top of the display as below :


SERVICE DATA
O2 SENSOR ---------- 58mV
MAP SENSOR ---------- 94E
O2 SENSOR ---------- 58mV
MAP SENSOR ---------- 94E
ATR TEMP SENSOR ------- 34°C
TPS SENSOR ---------- 19mV
STEP MOTOR ---------- 39.5%
BATTERY VOLTAGE ------- 13.2V
IGNITION SIGNAL ------- OFF
COOLANT TEMP SENSOR --- 82°C
ENGINE RPM ---------- 760rpm
SHORT TERM FUEL TRIM -- 100
1: GRAPH 2: METR ENTER : PTR

3) Step Three

Up to five sensors may be frozen at a time. For example, if the Injection Time, which can be shown when scrolled down, is selected and frozen, Injection Time value will be placed below the previously frozen O2 and MAP sensor.

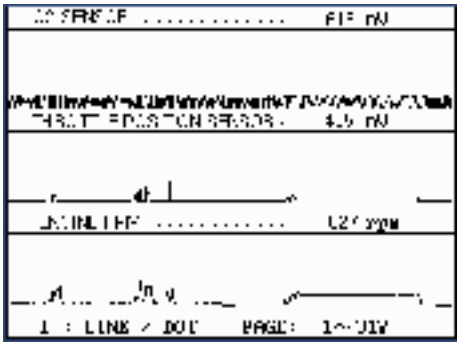


D. Data Graph

ULTRASCAN P1 provides the [Data Graph] function for more efficient data analysis.

a When you press the [1] key after locating the highlight bar on the desired sensor, the sensor data graph will be displayed as shown below.

b You can display up to 3 graphs in a screen by choosing the sensors as previously explained [Data Freeze] procedure - Press the [Enter] key after locating the highlight bar on the desired sensor, and then press the [1] key. When more than 4 sensors are selected, the graphs of upper three sensors will be displayed.



c For each sensor data graph, the name of the sensor and its current value will be simultaneously displayed together.

d To change the sensor, go back to the previous Service Data display by pressing the [Esc] key, and then choose other sensors.

e To halt the graph output, press the [ENTER] key. It will resume when you press the [ENTER] key again.

E. Help tips

a When you press the [HELP] key after locating the highlight bar on a certain data stream variable, the help message will be displayed. This works the same for detected Trouble Codes in [Self Diagnosis] function.

b Detailed information including conditional standard range on the selected sensor will be displayed as shown below.

O2 SENSOR ---------- 123mV
Idling right after engine start
(OPEN LOOP):Approx.450mV~950mV
Idling after warm-up(CLOSED LOOP)
: Changes between 100mV ~ 900mV

c Press the [ESC] key to go back to the data stream display.

III. Actuation Test ----------

- The actuation test is a very helpful function that temporarily activates or stops a certain actuator such as an injector, a motor or a solenoid by force, so that the user can evaluate the system's condition or the part's normal operation by observing its reaction

- Signals from various sensors are input to a control unit, and the actions are taken by controlling to actuators. Sensors and actuators are causes and effects in a control system.

- While the data stream function is useful to observe if the sensors are working properly and the control unit is collecting correct data from the sensors without problem, the actuator test is helpful to examine if the actuators are working in normal conditions and the control unit is commanding proper control over the system.

- Some of the cars such as Nissan or Toyota provide even more advanced actuation tests by letting the user observe the reaction of overall control system when manually adjusting the sensor input values.

A. Menu Selection

a Choose [ACTUATION TEST] from the function Selection Menu

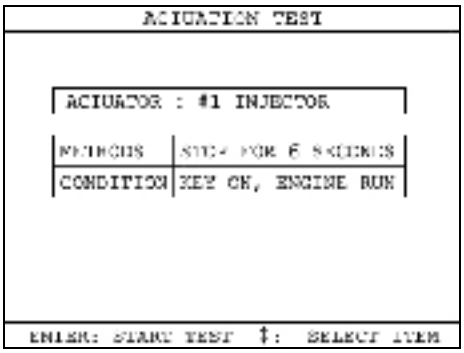
b The name of the actuator to be tested, test method and the test condition are shown in the display. Available actuators, test methods and conditions may differ in each vehicle.

B. Test Start

1. Selecting Test Item

a Choose an actuator to test from the menu by using the [▲] and [▼] keys.

b Check the test conditions and press the [ENTER] key when all the conditions are met.

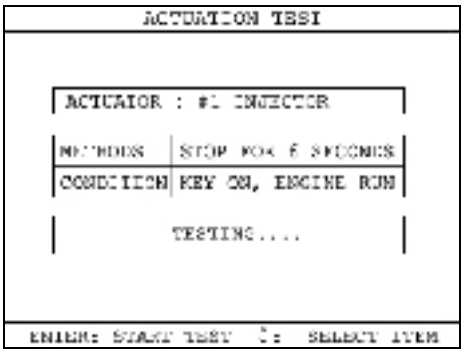


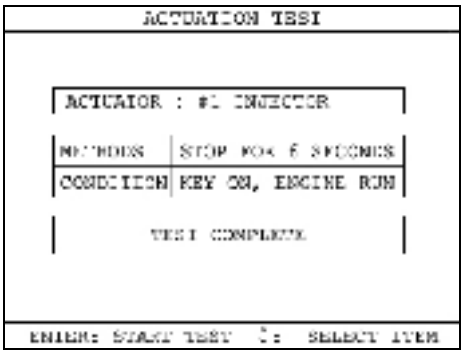
2. Testing

a [TESTING...] message will be displayed during the actuation test
Test method means how the actuation test will be performed. Check the actual reaction of the actuator

b In the example below, the injector will stop injecting fuel for 6 seconds while engine is idling, and it will make engine stall or unstable.

c Testing a fan or an injector is easy to check the proper reaction as it generates distinctive changes in vehicle condition such as fan whining or unstable idling. However, valves or motors are generally tested while engine is stopped and all you can hear may be a small and unclear electric buzzing sound. Test in a quite place and observe the test results carefully.





d When the test is completed, the [TEST COMPLETE] message will be displayed. You can choose other actuators by using the [▲] and [▼] keys. Press the [ESC] key to quit test mode.

IV. Black Box ----------

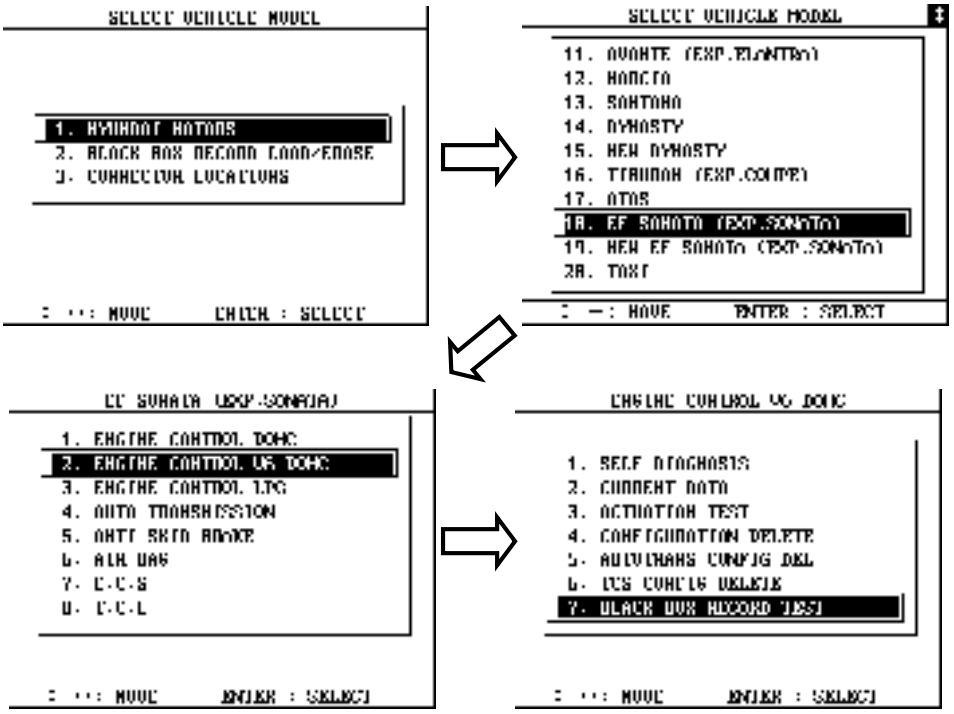
(= Record Replay)

Just like the 'Black Box' or a ‘flight recorder’ of an aircraft, ULTRASCAN P1 can 'record' data stream during the vehicle drive test and the recorded data can be 'retrieved' later for intensive analysis of vehicle's condition.

ULTRASCAN P1 has a menu, so called “Record Replay” same as Black Box function and you can understand “Record Replay” as Black Box function.

A. Function selection

Choose [#. Black Box Data] from the [Function Selection Menu] after selecting Origin, Car Manufacturer, Model name and system to test.



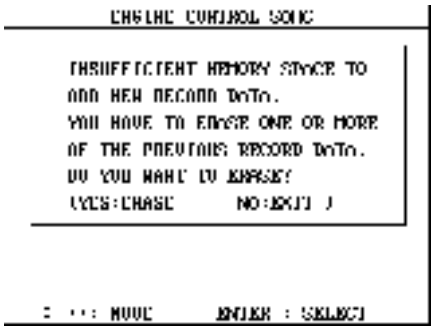
B. Capacity

a During a normal test, the [Data Stream] frames pass by in rapid succession, and cannot be recalled unless the data has been saved. Thanks to its extensive internal memory, ULTRASCAN P1 can record up to 2040 frames of Data Stream for multiple cars.

b By loading the recorded data, you can diagnose sensor data frame to frame without missing a single critical moment.

C. Memory Check

a. ULTRASCAN P1 checks its internal memory before it starts recording Black Box data. If there is no sufficient free memory space available, ULTRASCAN P1 will suggest deleting one or more of previous record(s).

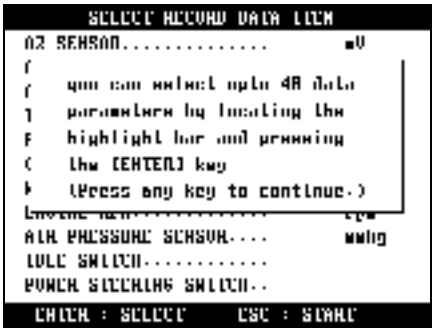

ENGINE CONTROL SONIC
INSUFFICIENT MEMORY SPACE TO
ADD NEW RECORD DATA.
YOU HAVE TO ERASE ONE OR MORE
OF THE PREVIOUS RECORD DATA.
DO YOU WANT TO ERASE?
(YES:ERASE NO:EXIT)
↕ : MOVE ENTER : SELECT

b. Press the [ERASE] key to proceed, then a list of saved data will follow. Locate the highlight bar on data to delete, and press the [ENTER] key. A query for your confirmation will follow. Press the [YES] key to erase otherwise press the [NO] key.

BLACK BOX RECORD REPLAY/ERASE 2/ 4
1. EF SONATA (EXP.SONATA)
2004-04-18
DO YOU WANT TO ERASE?
(YES:ERASE NO:EXIT)
4. SCOUPE LX 92 94
2004 02 25
↕ : MOVE ENTER : ERASE

D. PID(Live data parameter) selection

a You are required to select the parameters to record.


SELECT RECORD DATA ITEM
O2 SENSOR..... mV
you can select upto 40 data
parameters by locating the
highlight bar and pressing
the [ENTER] key
(Press any key to continue.)
AIR PRESSURE SENSOR.... mmHg
IDLE SWITCH.....
POWER STEERING SWITCH..
[ENTER] : SELECT ESC : START

b ULTRASCAN P1 will show you the whole live data parameters available in the control system you selected. Locate the highlight bar on the desired parameter and press the [ENTER] key.

Selected parameter will be marked star(*).

You can also deselect the parameter by repeating the procedure.

SELECT RECORD DATA ITEM 11/ 29
* O2 SENSOR..... mV
* O2 DUTY..... %
* O2 CONTROL.....
* THROTTLE ANGLE..... °
* ADAPT TPS..... °
* BATTERY VOLTAGE V
* AIR TEMPERATURE SENSOR. °C
* WATER TEMPERATURE SNSR. °C
* AIR FLOW SENSOR..... kg/h
* ENGINE RPM..... rpm
* VEHICLE SPEED SENSOR... Km/h
[ENTER] : SELECT ESC : START

SELECT RECORD DATA ITEM 9/ 29
* O2 SENSOR..... mV
* O2 DUTY..... %
* O2 CONTROL.....
* THROTTLE ANGLE..... °
* ADAPT TPS..... °
* BATTERY VOLTAGE V
AIR TEMPERATURE SENSOR. °C
* WATER TEMPERATURE SNSR. °C
* AIR FLOW SENSOR..... kg/h
* ENGINE RPM..... rpm
* VEHICLE SPEED SENSOR... Km/h
[ENTER] : SELECT ESC : START

c You can select up to 40 PIDs to record. Press the [ESC] key when the selection is completed, then ULTRASCAN P1 will start recording data.

E. Trigger Modes

There are three trigger modes in the black box function.

a Continuous Record Mode (No trigger mode)

- ULTRASCAN P1 will record live data of selected parameters up to 2040 frames or until you press the [ESC] key.

- Percentile memory usage and sampling time(frequency) will appear in the center of the screen while recording data, and the actual live data values will remain unchanged.

- Since no DTC trigger is applied in this mode, number of “Before DTC” frames will remain 0, and the “After DTC” will keep increasing as the more frames are recorded.

b Automatic Trigger Mode (Triggered by DTC)

- ULTRASCAN P1 will keep recording live data of selected parameters up to 128 frames.
- Once a DTC is detected or the [ESC] key is pressed by the user, it will proceed with recording remaining frames up to 2,040 or until you abort.
- This function will let you have a set of data stream before and after the ECM's DTC recognition when you perform the test drive.

- Before DTC, you will see the Live Data of the selected parameters keep refreshing, however, once triggered by DTC or [ESC] key stroke, only the percentile process information and sampling frequency will be displayed.

RECORDING BLACK BOX DATA 1/ 9
O2 SENSOR..... 10 mV
ATM TEMPERATURE SENSOR. -38 °C
THROTTLE POSITION SNSR. 10 mV
BATTERY VOLTAGE..... 10.0 V
CRANK SIGNAL..... OFF
WATER TEMPERATURE SNSR -20 °C
ENGINE RPM..... 0 rpm
AIR PRESSURE SENSOR.... 0 mmHg
IDLE SWITCH..... OFF
DETAIL: 12DATA : 0
ESC: STOP ENTER : Select

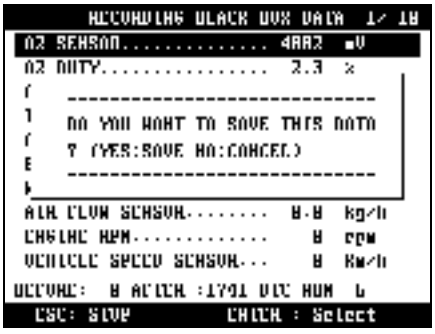
RECORDING BLACK BOX DATA 1/ 10
O2 SENSOR..... 4882 mV
O2 DUTY..... 2.3 %
O2 CONTROL..... 0.0
RECORDING : 1.9 %
SAMPLING TIME : 00:27:210 ms
WATER TEMPERATURE SNSR. 08 °C
AIR FLOW SENSOR..... 0.0 kg/h
ENGINE RPM..... 0 rpm
VEHICLE SPEED SENSOR... 0 Km/h
DETAIL: 0 AFTER : 39 DTC NUM 0
ESC: STOP ENTER : Select

c Manual Trigger Mode

- ULTRASCAN P1 will keep recording live data of selected parameters up to 128 frames, and once the [ESC] key is pressed by the user, it will proceed with recording remaining frames up to 2040.
- The screen display is the same as when selecting the Auto Trigger Mode.

F. Saving the recorded data

a When the total frame number reaches 2040 or when you press the [ESC] key to abort, a query asking you if you would like to save recorded data or to discard it. Press [YES] to save or [NO] to cancel.


RECORDING BLACK BOX DATA
O2 SENSOR..... 4882 mV
O2 DUTY..... 2.3 %
DO YOU WANT TO SAVE THIS DATA
? (YES:SAVE NO:CANCEL)
AIR FLOW SENSOR..... 0.0 Kg/h
ENGINE RPM..... 0 rpm
VEHICLE SPEED SENSOR... 0 Km/h
ESC: STOP ENTER : Select

b When pressed [YES], a dialog box follows and asks you to input the test date. Enter the date and press the [ENTER] key to save the recorded data to ULTRASCAN P1 memory.

Pressing the [ESC] key cancels saving data.

Date format is DD-MM-YYYY(D-day, M-month, Y-year), and only numeric values are available.

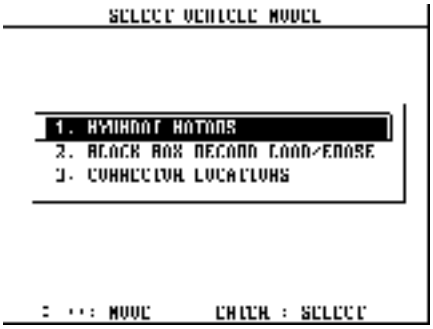
INPUT THE DATE
MODEL : EF SONATA (TEXT.SONATA)
DEVICE: ENGINE CONTROL U6 DOHC
DATE : D M Y
BEFORE: 0 PAGE
AFTER : 1798 PAGE
DTC ITEM NUM: 61ITM
↔:MOVE ESC:CANCEL
VEHICLE SPEED SENSOR... 0 Km/h
ESC: STOP ENTER : Select

INPUT THE DATE
MODEL : EF SONATA (TEXT.SONATA)
DEVICE: ENGINE CONTROL U6 DOHC
DATE : 18D 84M 2004Y
BEFORE: 0 PAGE
AFTER : 1798 PAGE
DTC ITEM NUM: 61ITM
↔:MOVE ESC:CANCEL
VEHICLE SPEED SENSOR... 0 Km/h
ESC: STOP ENTER : Select

c Tested Vehicle model name and control system will be saved as well as the date stamp for future retrieval.

G. Black Box Data Load

a You can load saved data by choosing [BLACKBOX RECORD LOAD / ERASE] from the [Car Manufacturer Selection] menu as shown below:



b A list of recorded Black Box Data will follow for your selection

Up to 4 black box data can be stored in the memory per car manufacturer, therefore, up to 4 saved black box data can be listed in the menu.

c The details of recorded data will be displayed for confirmation. If the record is correct, press the [ENTER] key. Press the [ESC] key to abort.

d If you want to erase any of these saved data, locate the highlight bar and press the erase key.

H. Loaded Blackbox data

Loaded black box data has basically the same format as the [Service Data (Live Data Stream)]. See the illustration below.

1. Data format

In the lower part of the display, the total number of recorded frames, frame number before and after the DTC(Diagnostic Trouble Code), and the number of DTC detected is displayed. In the example below, you can see that a total of 458 frames were recorded, and data stream currently shown in the main window is of the 336th frame from the beginning. It also tells you that the current frame is the 80th after 2 trouble codes were detected.

BLACK BOX RECORD REPLAY/CMA 1/ 18
O2 SENSOR..... 4882 mV
O2 DUTY..... 2.3 %
O2 CONTROL..... 8.9
THROTTLE ANGLE..... 8.8 ^
ABSPT TPS..... 29.9 ^
BATTERY VOLTAGE 18.8 V
WATER TEMPERATURE SNSR. 68 °C
AIR FLOW SENSOR..... 8.8 kg/h
ENGINE RPM..... 8 rpm
VEHICLE SPEED SENSOR... 8 Km/h
TIME : 88:88:8888s YES : REPLAY
1:Graph 2.Dtc ↑↓: PAGE 1/1798

The live data values may not be realistic as the screen was captured while the scan tool was linked to a simulator.

2. Data Replay

a. Press the [YES] key then the saved blackbox data will start replaying. ULTRASCAN P1 preserves the refresh time intervals of Black Box data. Therefore, Black Box data is replayed at the same speed as when it was originally recorded.

b. If you want to go forward or backward faster, press the [◀] or [▶] key while replaying. Replay speed will restore to the original speed when the key is released.

BLACK BOX RECORD REPLAY/ERA
A2 SENSOR..... 4882 mV
A2 DUTY..... 2.3 %
A2 CONTROL..... 0.0
THROTTLE ANGLE..... 0.0 °
ADAPT TPS..... 20.0 °
BATTERY VOLTAGE 10.8 V
WATER TEMPERATURE SNSR. 60 °C
AIR FLOW SENSOR..... 0.0 kg/h
ENGINE RPM..... 0 rpm
VEHICLE SPEED SENSOR... 0 Km/h
TIME : 00:00:052ms YES : PAUSE
HV:SLOW REPLAY ↑↓: PAGE 117/1740

c. Pressing the [YES] key will pause the replay. You can resume replaying from the frame where it was paused by pressing the [YES] key again.

BLACK BOX RECORD REPLAY/ERA
A2 SENSOR..... 4882 mV
A2 DUTY..... 2.3 %
A2 CONTROL..... 0.0
THROTTLE ANGLE..... 0.0 °
ADAPT TPS..... 20.0 °
BATTERY VOLTAGE 10.8 V
WATER TEMPERATURE SNSR. 60 °C
AIR FLOW SENSOR..... 0.0 kg/h
ENGINE RPM..... 0 rpm
VEHICLE SPEED SENSOR... 0 Km/h
TIME : 00:00:332ms YES : REPLAY
HV:SLOW REPLAY ↑↓: PAGE 117/1740

d. Pressing the [NO] key will stop replaying. You can restart replay by pressing the [YES] key again, but it will start from the first frame.

BLACK BOX RECORD REPLAY/ERA
A2 SENSOR..... 4882 mV
A2 DUTY..... 2.3 %
A2 CONTROL..... 0.0
THROTTLE ANGLE..... 0.0 °
ADAPT TPS..... 20.0 °
BATTERY VOLTAGE 10.8 V
WATER TEMPERATURE SNSR. 60 °C
AIR FLOW SENSOR..... 0.0 kg/h
ENGINE RPM..... 0 rpm
VEHICLE SPEED SENSOR... 0 Km/h
TIME : 02:10:982ms YES : REPLAY
1:Graph 2:Vlt ↑↓: PAGE 167/1740

3. Graph

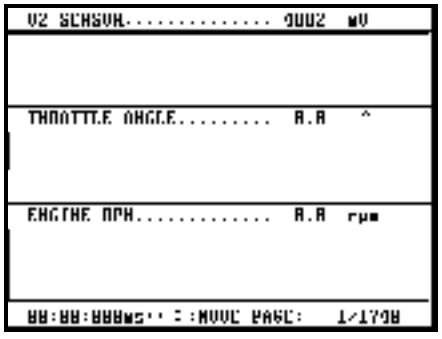
a As previously explained in section [3. Service Data], data from up to three selected parameter data can be graphed.

b Make sure that the Black Box data replay is stopped. If it is being replayed or paused, press the [NO] key to stop replaying completely.

c Choose the parameter by locating the highlight bar and pressing the [ENTER] key. The selected parameter will be marked with a triangle as shown below:

BLACK BOX RECORD REPLAY/CHA 9/ 18
O2 SENSOR..... 4882 mV
O2 DUTY..... 2.3 %
O2 CONTROL..... 8.7
THROTTLE ANGLE..... 8.8 °
ABSPT TPS..... 29.7 °
BATTERY VOLTAGE 18.8 V
WATER TEMPERATURE SENSR. 68 °C
AIR FLOW SENSOR..... 8.8 kg/h
ENGINE RPM..... 8 rpm
VEHICLE SPEED SENSOR... 8 Km/h
TIME : 88:88:8888ms YES : REPLAY
1:Graph 2.DIC ↑↓: PAGE 1/1788

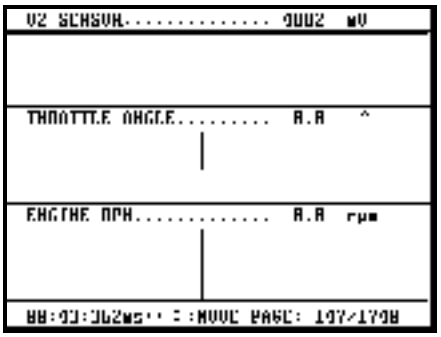
d Then press the [1] key to view the data in graph format.



The line graphs are flat as it is not based on data recorded from the active vehicle.

e Up to 316 frames can be displayed on a single page.
If recorded data has more than 316 frames, you can shift to next or previous page by using the [▲] and [▼] keys.

f The dotted line indicates from which frame the live data parameter values are being displayed. You can move it left and right with the [◀] and [▶] keys.



g Elapsed time and frame number are indicated in the bottom.
- *Continuous Record (No trigger) Mode*: Elapsed time and number of frames from the first frame
- *Automatic / Manual Trigger (Triggered by DTC or user) Mode:* Elapsed time and number of frames from the trigger point (DTC detection or [ESC] key stroke by the user). Before the trigger point will be marked in negative values.

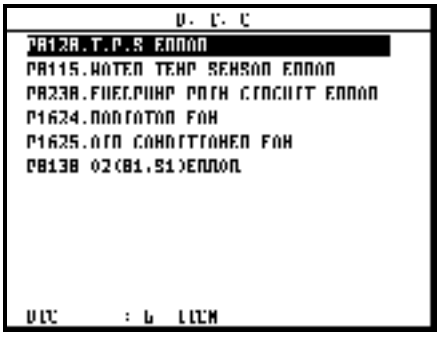
h To return to the Black Box Data Display, press the [ESC] key.

4. DTC

a You can check the DTC(s) found during recording Black Box Data.

b Make sure that the Black Box data replay is stopped. If it is being replayed or paused, press the [NO] key to stop replaying completely.

c Press the [2] key then the list of DTC(s) will appear as below:

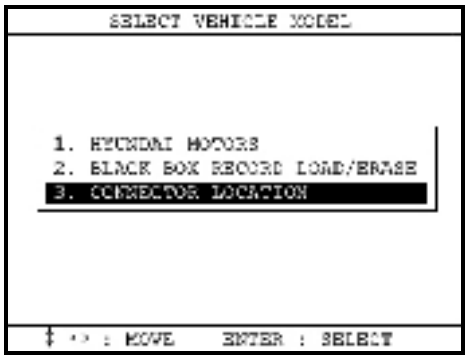


d Because Black Box Data is not live or active, you cannot erase DTC(s).

V. Connector Location ----------

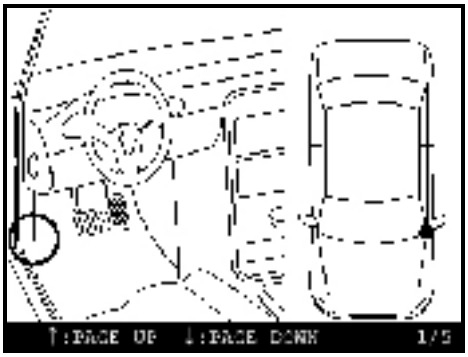
a The vehicle side OBD2 adapter is easy to find as the location is quite regular – under the dash, however, the old vehicle side DLC adapters of OBD generation 1 are located quite randomly and sometimes it is very difficult to find.

ULTRASCAN P1 has the vehicle side adapter location maps for some car make to aid the user in locating the adapters. The locations suggested in this function are purely from Hanatech's experience, therefore, it may contain incorrect information. It is always highly recommended to refer to the original repair manual published by the car manufacturers for correct information and there are some makes which does not have adapter location map for the reason of on going S/W enhancement.

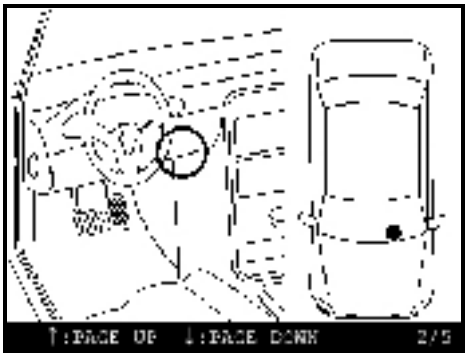


b Select [CONNECTOR LOCATION] from the vehicle selection menu if the adapter is not found in the place where it is supposed to be.

A drawing indicating the location of the vehicle side adapter follows. In the right bottom of the display, the total number of location maps for the selected car make is indicated. The example below is when Hyundai motors is selected, and it tells there are total 5 maps.



c The maps are provided in the order of most frequently found location. Press Up or Down key to view the next or previous map. Press the [ESC] key to return to vehicle selection menu.



d Location maps for Korean cars are based on Left Hand Drive vehicles, and the others such as Japanese, Australian and Malaysian cars are based on Right Hand Drive cars. You may have to consider reversed image according to your local practice.

Refer to each car make section in this manual for further information.

VI. Immobilizer ----------

a. ULTRASCAN P1 provides diagnostic functions on Immobilizer systems. The function includes Key Coding as well as DTC Read/Erase or Live Data functions in some car makes such as Hyundai, Kia, Australian Holden, Australian Ford and Mitsubishi, and such OEM level functionality is expected to be extended to the other car makes as further development is carried out..

b. Immobilizer system is case sensitive because it is directly related with the security issues. Misuse or improper operation of the this key coding or programming function may result in break down of the system and immobilize the vehicle, which generates greater loss of money and time for restoration.

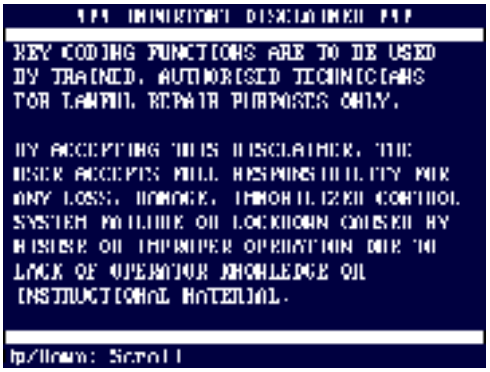
Hanatech recommends this function to be used only by the trained and authorized technicians with thorough understanding of the whole procedure, for lawful repair purposes only.

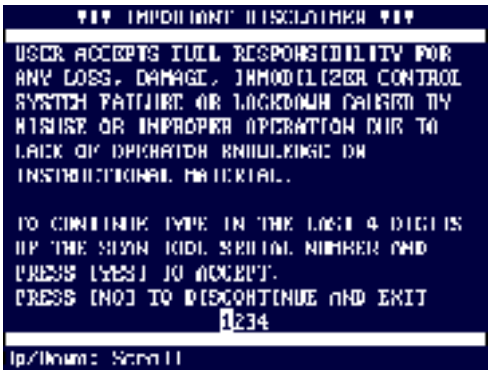
The user is fully responsible for any loss, damage, immobilizer systems failure or lock down caused by misuse or improper operation due to lack of operator knowledge or instructional material

c. If you select any key copying, coding, reset or programming function from an immobilizer system function menu, a disclaimer will appear on the screen asking to read the warning message as shown below:

Read the whole disclaimer by using the [up] / [down] arrow keys, and type in the last 4 digits of the serial number in the bottom of the screen and then press the [YES] key to proceed to the next step.
Pressing the [NO] key will abort the function.

The serial number is found in the back of the base unit behind the grip belt. You cannot type in the numbers unless you scroll the whole disclaimer down to the last line.


KEY CODING FUNCTIONS ARE TO BE USED
BY TRAINED, AUTHORISED TECHNICIANS
FOR LAWFUL REPAIR PURPOSES ONLY.
BY ACCEPTING THIS DISCLAIMER, THE
USER ACCEPTS FULL RESPONSIBILITY FOR
ANY LOSS, DAMAGE, IMMOBILIZER CONTROL
SYSTEM FAILURE OR LOCKDOWN CAUSED BY
MISUSE OR IMPROPER OPERATION DUE TO
LACK OF OPERATOR KNOWLEDGE OR
INSTRUCTIONAL MATERIAL.
Up/Down: Scroll


USER ACCEPTS FULL RESPONSIBILITY FOR
ANY LOSS, DAMAGE, IMMOBILIZER CONTROL
SYSTEM FAILURE OR LOCKDOWN CAUSED BY
MISUSE OR IMPROPER OPERATION DUE TO
LACK OF OPERATOR KNOWLEDGE OR
INSTRUCTIONAL MATERIAL.
TO CONTINUE TYPE IN THE LAST 4 DIGITS
OF THE SEVEN DIGIT SERIAL NUMBER AND
PRESS [YES] TO ACCEPT.
PRESS [NO] TO DISCONTINUE AND EXIT
1234
Up/Down: Scroll